

II. Rejection under 35 U.S.C. § 112, second paragraph

Claims 11-20, 25-36, and 100 are rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Applicants respectfully traverse as follows.

Regarding claim 100, the Examiner alleges that "chosen from" renders the claim indefinite because there is only one compound in the claim. Office Action at p. 2. In an effort to expedite prosecution, Applicants have amended claim 100 to recite "A compound of the formula (carboxymethylamino)iminomethane-sulphinic acid." It is believed that this amendment in no way narrows the scope of claim 100.

Regarding claim 14, the Examiner states that compounds 5 and 7 are the same. Applicants have amended claim 14 to remove this typographical error and delete compound 7. It is believed that this amendment in no way narrows the scope of claim 14 as it was made to correct a typographical error.

The Examiner alleges that "other than said" renders claim 20 indefinite, but provides no reasoning. Applicants respectfully disagree. The standard of definiteness under 35 U.S.C. § 112, second paragraph, is a reasonable degree of clarity and precision. M.P.E.P. § 2173.02. "Definiteness of claim language must be analyzed, not in a vacuum, but in light of:

(A) The content of the particular application disclosure;

(B) The teachings of the prior art; and

(C) The claim interpretation that would be given by one possessing the ordinary level of skill in the pertinent art at the time the invention was made." *Id.*

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The Examiner has provided no reasoning of how "other than said" renders claim 20 indefinite. Claim 11, from which claim 20 depends, recites "at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I)," among other limitations. Claim 20 recites "at least one additive chosen from reducing agents other than said at least one reducing agent..." meaning that the at least one additive is not the same as the at least one reducing agent recited in claim 11.

The Examiner alleges that "optionally chosen from aromatic rings, and optionally comprising ... oxygen, and sulfur" renders claim 11 indefinite. Applicants respectfully disagree. The use of "optionally" does not automatically render a claim indefinite *per se*. "[A] claim may not be rejected solely because of the type of language used to define the subject matter for which patent protection is sought." M.P.E.P. § 2173.01; see also *In re Swinehart*, 439 F.2d 210 (C.C.P.A. 1971). Claim 11 clearly recites substituents for R1, R2, and R3, among them C₃ to C₂₀ rings. The "optionally" language simply recites additional optional features of the C₃ to C₂₀ rings. As the optional recitations are clear, the meaning of claim 11 is sufficiently definite.

Accordingly, Applicants respectfully request withdrawal of this rejection.

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III. Rejections under 35 U.S.C. § 102

A. Yarovenko

1. Claim 100 is rejected under 35 U.S.C. § 102(b) as being anticipated by Yarovenko et al. (DN 73:34993, CAPLUS, abstract of Zh. Org. Khim. (1970), 6(5), 947-9). Office Action at p. 3.

Claim 100 has been amended to replace "imino(phenylamino)methanesulphinic acid" with (carboxymethylamino)iminomethanesulphinic acid. Support for this compound can be found in claim 100 as originally filed. Because Yarovenko et al. does not disclose "(carboxymethylamino)iminomethanesulphinic acid," Applicants believe that claim 100 is patentable over Yarovenko.

Accordingly, Applicants respectfully request withdrawal of this rejection.

2. Claims 11, 12, 16-19, and 39-41 are also rejected under 35 U.S.C. § 102(b) as being anticipated by Yarovenko et al. Office Action at pp. 3-4. Applicants respectfully traverse this rejection.

According to the Examiner, Yarovenko discloses compounds such as (phenylamino)(phenylimino)methanesulfinic acid and [(hydroxymethyl)amino]iminomethanesulfinic acid. The Examiner believes that the disclosure of a single compound suffices for anticipation because "a reducing composition for permanent deformation of hair," recites an intended use "not distinguishable in terms of the composition." Office Action at p. 6.

A rejection under § 102 is only proper when the claimed subject matter is identically described or disclosed in the prior art. *In re Arkley*, 455 F.2d 586, 587 (CCPA 1972); *see also* M.P.E.P. § 706.02(a) ("For anticipation under 35 U.S.C.

102, the reference must teach every aspect of the claimed invention either explicitly or impliedly.”). Importantly, each and every element of a claim must be set forth in the prior art reference for there to be anticipation. See M.P.E.P. § 2131.

The preamble “a reducing composition for permanent deformation of hair,” must be considered because it is “necessary to give life, meaning, and vitality” to the claim. *Catalina Marketing Int’l v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). Here, the preamble recites a “composition” and not a “compound.” The meaning of “composition” is well-established and “generally refers to mixtures of substances.” *PIN/NIP, Inc. v. Platte Chemical Co.*, 304 F.3d 1235, 1244 (Fed. Cir. 2002). It is well known in the cosmetic art that a reducing composition applied to hair does not consist solely of the reducing agent, i.e., a single compound, but rather includes at least one other ingredient. For example, the Examples section of the specification lists the formulation of a prior art lotion and an inventive lotion. Both lotions include other ingredients, such as diethylenetriaminepentaacetic acid, pentasodium salt, monoethanolamine, and water. Thus, the mere disclosure of a prior art compound is not sufficient to anticipate independent claim 11.

Moreover, according to prevailing case law, as understood by the undersigned, “intended use” limitations are not barred on a *per se* basis. Applicant does not concede that the claims recite “an intended use” limitation as asserted by the Examiner. Nonetheless, intended use limitations should be

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accorded patentable weight by the Examiner, as noted by the Federal Circuit below:

Stencel is not inhibited from claiming his driver limited by the statement of its purpose, and further defined by the remaining clauses of the claims at issue, when there is no suggestion in the prior art of a driver having the claimed structure and purpose.

In re Stencel. 828 F.2d 751, 755 (Fed. Cir. 1987). Like *Stencel*, the present claims recite a composition, which differs from the single compounds disclosed in Yarovenko. Thus, absent a reason for doing so, the Examiner must consider all the limitations of the present claims, including any alleged intended use limitations.

Accordingly, Applicants respectfully request withdrawal of this rejection.

B. Shibanov

Claims 11-19 and 39-41 are rejected under 35 U.S.C. § 102(b) as being anticipated by Shibanov et al. (DN 70:87599, CALUS, abstract of SU 229521). Office Action at pp. 4-5. Applicants respectfully traverse this rejection.

According to the Examiner, Shibanov discloses single compounds, such as the monoammonium salts of imino[(6-methyl-2-pyridyl)amino]methanesulfinic acid, imino[(5-methyl-2-pyridyl)amino]methanesulfinic acid, imino(3-quinolylamino)methanesulfinic acid, and imino(2-quinolylamino)methanesulfinic acid. The Examiner believes that the disclosure of these single compounds suffices for anticipation because "a reducing composition for permanent deformation of hair," recites an intended use "not distinguishable in terms of the composition." Office Action at p. 6.

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Applicants respectfully disagree. For the same reasons discussed above, the preamble "a reducing composition for permanent deformation of hair," must be considered here as it recites a "composition." Shibarov does not teach or disclose such reducing compositions, i.e., mixtures of compounds, but merely discloses single compounds. Thus, Shibarov does not disclose each and every element of the claim, as is required for anticipation.

Accordingly, Applicants respectfully request withdrawal of this rejection.

C. Rao

Claims 11, 12, 16-19 and 39-41 are rejected under 35 U.S.C. § 102(b) as being anticipated by Rao et al. (U.S. Patent No. 3,051,626). Office Action at p. 5. Applicants respectfully traverse this rejection.

According to the Examiner, Rao discloses a variety of single compounds in Example VI. The Examiner believes that the disclosure of these single compounds suffices for anticipation because "a reducing composition for permanent deformation of hair," recites an intended use "not distinguishable in terms of the composition." Office Action at p. 6.

Again Applicants respectfully disagree. For the same reasons discussed above, the preamble "a reducing composition for permanent deformation of hair," must be considered here as it recites a "composition." Rao does not teach or disclose such reducing compositions, i.e., mixtures of compounds, but merely discloses single compounds. Moreover, Rao discloses compositions useful for inhibiting the growth of tumors, not for permanent deformation of hair. Col. 1,

lines 11-13. Thus, Rao does not disclose each and every element of the claim, as is required for anticipation.

Accordingly, Applicants respectfully request withdrawal of this rejection.

IV. Rejection under 35 U.S.C. § 103

Claims 11-12, 16-42, and 100 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Amon (GB 1 201 601). Office Action at p. 6. According to the Examiner, Amon "teaches a reducing composition for hair waving or straightening containing aminoiminomethanesulfinic acid or a water-soluble salt thereof." *Id.*

Claim 11 has been amended to add the proviso "that R1, R2, and R3 are not simultaneously equal to hydrogen." Support for this amendment can be found in the specification in the Examples, where a composition comprising formamidinesulphonic acid, i.e., R1=R2=R3=hydrogen, is classified as a prior art composition. See Specification at pp. 15-16 and Table 1. From this description, it is clear that formamidinesulphonic acid and its inorganic and organic salts were not intended to be encompassed by claim 11. Thus, this amendment introduces no new matter in accordance with the written description requirement of 35 U.S.C. § 112, paragraph 1.

Amon teaches the use of a composition comprising amino imino methane sulphonic acid, i.e., formamidinesulphonic acid (see p. 3, lines 15-17), or a water soluble salt thereof as a reducing agent in the "deformation of hair in waving and other operations." P. 2, lines 1-7. Amon, however, fails to teach or disclose that

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any other compound besides formamidinesulphinic acid is useful as a reducing agent. All of the examples described by Amon relate only to formamidinesulphinic acid. Thus, Amon as a whole teaches one of ordinary skill in the art the use and benefits of formamidinesulphinic acid only and not of the compounds of claim 11 as amended.

Accordingly, Applicants respectfully request withdrawal of this rejection.

V. Conclusion

If the Examiner believes a telephone conference would be useful in resolving any outstanding issues, she is invited to call the undersigned at (202) 408-4173.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

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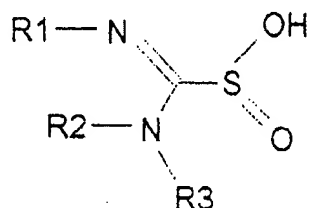
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APPENDIX OF CLAIMS

11. (Amended) A reducing composition for permanent deformation of hair comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

in which:

R1, R2, and R3, which are identical or different, are each chosen from hydrogen; amino groups; C₁ to C₈ aminoiminoalkyl groups; imino groups; C₁ to C₈ aminoalkyl groups; guanidino groups; C₁ to C₈ linear alkyl groups; C₁ to C₈ branched alkyl groups; C₂ to C₈ linear alkenyl groups; C₂ to C₈ branched alkenyl groups; C₇ to C₂₀ aralkyl groups; and C₃ to C₂₀ rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur; and

wherein said R1, R2, and R3 are optionally substituted;

with the proviso that R1, R2, and R3 are not simultaneously equal to hydrogen.

14. (Amended) A composition according to Claim 11, wherein said at least one reducing agent is chosen from:

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- imino(methylamino)methanesulphinic acid;
- imino(propylamino)methanesulphinic acid;
- (dimethylamino)iminomethanesulphinic acid;
- (diethylamino)iminomethanesulphinic acid;
- (ethylamino)(ethylimino)methanesulphinic acid;
- (methylamino)(methylimino)methanesulphinic acid;
- [- (ethylamino)(ethylimino)methanesulphinic acid;]
- (butylamino)(butylimino)methanesulphinic acid;
- (phenylamino)(phenylimino)methanesulphinic acid;
- (phenylmethylamino)(phenylmethylimino)methanesulphinic acid;
- (carboxymethylamino)iminomethanesulphinic acid;
- (2-carboxyethylamino)iminomethanesulphinic acid;
- (3-carboxypropylamino)iminomethanesulphinic acid;
- (5-carboxypentylamino)iminomethanesulphinic acid;
- (hydroxymethylamino)iminomethanesulphinic acid;
- (2-aminoethylamino)iminomethanesulphinic acid;
- imino(sulphonylmethylamino)methanesulphinic acid;
- imino(2-sulphonylpropylamino)methanesulphinic acid;
- imino(2-phosphonylmethylamino)methanesulphinic acid;
- imino(phenylamino)methanesulphinic acid;
- imino(4-methylphenylamino)methanesulphinic acid;
- imino(4-hydroxyphenylamino)methanesulphinic acid;
- imino(4-methoxyphenylamino)methanesulphinic acid;

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- imino(2-chlorophenylamino)methanesulphinic acid;
- imino(4-methyl-2-pyridylamino)methanesulphinic acid;
- imino(6-methyl-2-pyridylamino)methanesulphinic acid;
- imino(5-methyl-2-pyridylamino)methanesulphinic acid;
- imino(2-quinolylamino)methanesulphinic acid;
- imino(3-quinolylamino)methanesulphinic acid;
- (methylimino)-2-pyridylaminomethanesulphinic acid;
- (methylimino)[(3,4,5,6-tetrahydro-2-pyridyl)amino]methanesulphinic acid; and
- [(aminoiminomethyl)amino]iminomethanesulphinic acid.

100. (Twice Amended) A compound [chosen from] **of the formula:**

[- imino(phenylamino)methanesulphinic acid]

(carboxymethylamino)iminomethanesulphinic acid.

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